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Solar has installed many generating units through out the United States.

Virtually every states utilities have a dedicated “Connection-to-the Grid” policy document that must be adhered to. In some cases, areas in the same state, within the same utility, have different guidelines.

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Utilities generally formulate their guidelines based on a drastic, or catastrophic, events, that may have occurred many years prior. Technologies have improved significantly over the last twenty years. Unfortunately, the new technologies that may prevent the “old” event from recurring are not applied to the guidelines.

Like different utilities, the amount of protective relaying – and the manufacturers type of relay – also differ from Utility to Utility.

Different manufacturers of protective relaying is acceptable. However, the selection of what exact relay type is rarely the same

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As shown, protective relays are manufactured by many different companies. Depending on the age of a utility, the type of relay that has become the utilities "Standard" also varies. Some utilities still have relaying dating back to the 1930's, while others use the new microprocessor based relays

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Another variable is the "sometime" requirement for an isolation transformer. Even though the generated voltage and the distribution voltage may be the same, there are the isolated cases where the utility requires an isolation transformer between the generator and the system. Consistency in this area would make planning a clearer issue.

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In summary, the lack of consistency in utility interconnect system requirements for small power producers leads to the inability to properly plan for equipment needs during the initial bid process. The supplier, and the Customer, must ensure that they have received current copies of the specified utilities interconnect guidelines to ensure they do not proceed with a project , only later to discover they do not conform to that specific utilities requirements.

Years of experience can not out-guess a utilities interconnect requirements. The experience does alert the design engineers that they need the requirements at the being of a project..

With a uniform guideline in force all parties involved know what equipment is required. This, in turn, leads to a consistent nation wide system that the small power producer can provide their products to and assist in meeting the future needs for the growing power consumption arena.